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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/235,531 01/22/99 BIEBER

K 476

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QM32/0920

EXAMINER

CADUGAN, E

ART UNIT

PAPER NUMBER

3722

DATE MAILED:

09/20/01

16

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/235,531

Applicant(s)

BIEBER ET AL.

Examiner

Erica E Cadugan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

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DETAILED ACTION

Faxing of Responses to Office Actions

1. In order to reduce pendency and avoid potential delays, TC 3700 is encouraging FAXing of responses to Office Actions directly into the Group at (703) 305-3579. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into TC 3700 will be promptly forwarded to the examiner.

Specification

2. The abstract of the disclosure is objected to because it contains (per applicant's amendment filed February 7, 2001) legal phrasing such as "means" or "said". Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
4. Claims 1-14 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

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5. Specifically, amended claims 1 and 8 set forth that the drive motor is “for rotatably and strikingly driving said drilling spindle”. However, as set forth in the disclosure as originally filed, the only teaching provided about the specific percussion mechanism is found on page 9, lines 3-8. The specification does not provide a teaching that the motor 11 that rotatably drives the spindle 13 (see page 8, lines 2-12) also “strikingly” drives the spindle 13. Note that the specification does provide that an “impact mechanism 28” is used “for delivering axial impacts against the drilling spindle 13” (page 9, lines 4-6), and thus the specification as originally filed would support a claim limitation directed to an “impact mechanism”.

Additionally, amended claims 1 and 8 set forth that the arresting device “is uncoupled from strikes of said drilling spindle”. As will be provided below in a rejection under 35 U.S.C. 112, second paragraph, it is unclear what is meant by this limitation. However, there does not appear to be support in the specification as originally filed for this limitation. Note that the specification as originally filed provides that the impact mechanism 28 “is turned off in a conventional manner”.

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
7. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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In claims 1 and 8, it is unclear what is meant by the new limitation “and is uncoupled from strikes of said drilling spindle”. Firstly, a strike is not an object, and it is thus unclear how a non-object is “uncoupled” as claimed. Secondly, it is unclear as claimed whether the arresting device operates to uncouple some (unclaimed) striker from the spindle 13, or whether the arresting device is merely being set forth as a separate entity than some (again, unclaimed) striker (arresting device is “uncoupled”).

There are several positively recited limitations that lack sufficient antecedent bases in the claims. Examples of these are: “the torque transmission” in claim 1, penultimate line and claim 8, penultimate line (note that the claimed “the torque transmission” is not the same torque transmission as the one previously set forth in the claim); “said intermediate disc” in claim 5, line 4; and “said toothed gear” in claim 14, line 2.

In each of the independent claims 1, 8, 15 and 16, it is unclear in the limitation “an intermediate shaft non-rotatably connected with said drilling spindle” what is meant by “non-rotatably”, as the specification seems to indicate that the intermediate shaft 17 rotatably supports a gear 16 thereon (Figure 2 and page 8, lines 8-10), and that the intermediate shaft 17 also has teeth 18, 19 thereon for engagement with gears 20, 21 on the shaft of drilling spindle 13 (page 8, lines 10-12). In order for the shaft of motor 11 to ultimately drive the spindle 13, it appears that shaft 17 must rotatably connect to spindle 13 via the teeth 18, 19, and the gears 20, 21. Note that the specification does teach that

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when switching between transmission stages, the gears 20 and 21 are non-rotatably connected with spindle 13, but that these claims set forth that the tool receives a torque from the drive motor which can't occur if the intermediate shaft 17 and spindle 13 are non-rotatably connected as claimed.

Claim Rejections - 35 USC § 102

8. Claims 15 and 16, as best understood, are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 5,984,022 (Harman, Jr. et al.). Harman teaches a drill (column 4, lines 1-2) having a housing 12. Within the housing 12 is a motor 14 which transmits power through a geared drive mechanism 18 to a chuck 16 (column 4, lines 7-11 and Figure 1). The chuck 16 is drivingly connected to an output shaft 64 or "spindle" (column 4, lines 19-22), where a thread is known to be included by "drivingly connected". As shown in Figure 1, the chuck 16 is loosened or tightened with a key, and thus a moment is imparted to the spindle 64 upon loosening or tightening the chuck 16. The drill has an "arresting device" or automatic shaft lock, which will be further described. Forming a portion of the arresting device is a shaft 60, which is an intermediate shaft. Note that as viewed in Figure 1, shaft 60 is offset from the "spindle" 64. On intermediate shaft 60 is mounted a gear 32 which is coupled to axially-extending drive lugs or claws 42 (column 4, lines 32-35, and Figures 2 and 3). The gear 32 can be considered to be part of a transmission stage, as motion is transmitted from the motor 18 to the spindle 64 via a series of gears which includes gear 32. Adjacent the gear 32 and

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claws 42 is an anvil or disc 48 which has a plurality of radially-projecting elements (see Figure 2). The disc 48 is press-fit so as to be non-rotatably mounted on intermediate shaft 60 (column 4, lines 39-40). The arresting device serves to lock the intermediate shaft 60 and the output shaft 64 from rotation upon an external torque being applied to the chuck 16 or output shaft 64 (column 6, lines 10-19), and to allow rotation of the intermediate and output shafts when a torque is applied from the motor 14 (column 6, lines 19-31).

9. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Claim Rejections - 35 USC § 103

10. Claims 1-5, 7-12, and 14-16, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,433,082 (Bitter et al.) in view of U.S. Patent No. 5,788,021 (Tsai). Bitter et al. teaches a hammer-drill (see title of invention) which has a motor housing 13 and a gear case 15 (column 3, lines 32-35 and Figures 1-2). The motor housing houses a motor (column 3, lines 35-36) which ultimately drives a tool chuck 19 threadedly connected to a forward end of spindle shaft 43 (Figure 2 and column 4, lines 12-15). Thus, the spindle shaft 43 inherently receives a moment during exchanging of the tool chuck. A “stage” of gears 35, 37, 39, 41 is provided between the motor shaft 25 (which constitutes an “intermediate shaft”, see Figure 2 and column 3, lines 51-67) and the spindle shaft 43. Specifically regarding

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claims 4 and 11, while Bitter et al. does not specifically describe the transmission ratio, note that the input gears 35, 37, 39 are smaller in diameter (Figure 2) than the output gear 41, and thus the output speed is slower than the input speed. Note that the motor or “intermediate” shaft 25 is radially offset from the spindle shaft 43 (Figure 2). Any number of elements taught by Bitter et al. could constitute a “component connected to said machine housing”. For example, as viewed in Figure 2, screws 17 are connected to the housing. Bitter et al. does not teach an arresting device. Tsai teaches an automatic output shaft locking mechanism for an electric tool such as a drill or a striking tool (column 1, lines 7-23). Tsai’s device utilizes a retaining ring 50, which constitutes a “disc”. The “disc” 50 has a plurality of radial projections 502 (Figure 2), which project outwardly from center hole 501 (see Figure 1). The center hole 501 constitutes a bearing seat which couples disc 50 to shaft 60. Tsai also teaches the use of a “claw coupling” 20 which has a plurality of axially extending claws 203 (see Figure 1). Tsai teaches that a motor output shaft is divided into an inner shaft 10 and an outer shaft 60 (column 2, lines 35-38 and Figure 1). When a torque is applied to the inner or intermediate shaft 10 (e.g., via the motor), the outer or output shaft 60 rotates (column 3, lines 28-35, and Figures 3 and 4). When a torque is applied to the output shaft 60 (e.g., manually), the disc 50 is locked in position (column 3, lines 35-60 and Figures 5 and 6) such that a chuck or a drill bit can be speedily and conveniently replaced (column 3, lines 60-64). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention

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was made to have added the automatic output shaft locking mechanism taught by Tsai to the drill taught by Bitter et al. (such that the divided shaft taught by Tsai replaces the shaft portion of motor shaft 25 taught by Bitter et al., and wherein the inner shaft 10 taught by Tsai would be connected to the motor taught by Bitter et al. and the outer shaft 60 taught by Tsai would be to the left side of the replaced shaft as viewed in Figure 2 of Bitter et al., thus positioning the locking mechanism at an "end side" of a toothed gear 35 of the stage taught by Bitter et al.), for the purpose of allowing drill bits to be speedily and conveniently removed or replaced (Tsai, column 3, lines 60-64).

11. Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,433,082 (Bitter et al.) in view of U.S. Patent No. 5,788,021 (Tsai) as applied to claims 1, 5, 8, 10, and 12 above, and further in view of U.S. Patent No. 3,030,818 (Zagar). Bitter et al. in view of Tsai teaches all aspects of the invention as claimed in claims 6 and 13 as set forth in the above 103 rejection based thereon, but does not teach that the shaft 25 has a non-cylindrical cross section. Zagar teaches the use of a gear 21, which is a driven disc. The gear 21 is mounted on a polygonal portion of a shaft 27 (Figures 1 and 3). The polygonally-mounted portion acts as a key coupling (column 1, lines 18-21). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a polygonal shaft as taught by Zagar for the motor shaft taught by Bitter et al. in view of Tsai such that the portion of the shaft that held the disc was polygonally-shaped for the purpose of providing a built-in

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key between the disc and the shaft, thus preventing slippage between the disc and the shaft.

Response to Arguments


12. Applicant's arguments filed July 12, 2001 have been fully considered but they are not persuasive.
13. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection. Examiner will address any considerations that were not rendered moot by the new rejections.
14. Regarding the new rejection of claims 15 and 16 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 5,984,022 (Harman, Jr. et al.), as stated above, applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15. Applicant's arguments filed February 7, 2001 state that "A translation of the priority document is enclosed herewith." Applicant's arguments filed July 12, 2001 state that "[w]ith the present Amendment applicant has also submitted a translation of the priority document." Examiner could locate no such translation, nor could examiner locate any record of such a translation being filed in, for example, a transmittal letter.

Contact Information

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15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erica E. Cadugan whose telephone number is (703) 308-6395. The examiner can normally be reached on Monday through Thursday from 7:30 a.m. to 5:00 p.m, and every other Friday from 7:30 a.m. to 4:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A.L. Wellington can be reached at (703) 308-2159. The fax number for TC 3700 is (703) 305-3579. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 3700 receptionist whose telephone number is (703) 308-1148.


eec


A. L. WELLINGTON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700

September 18, 2001

Attachment for PTO-948 (Rev. 03/01, or earlier)

6/18/01

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.